STRETCH TAPE

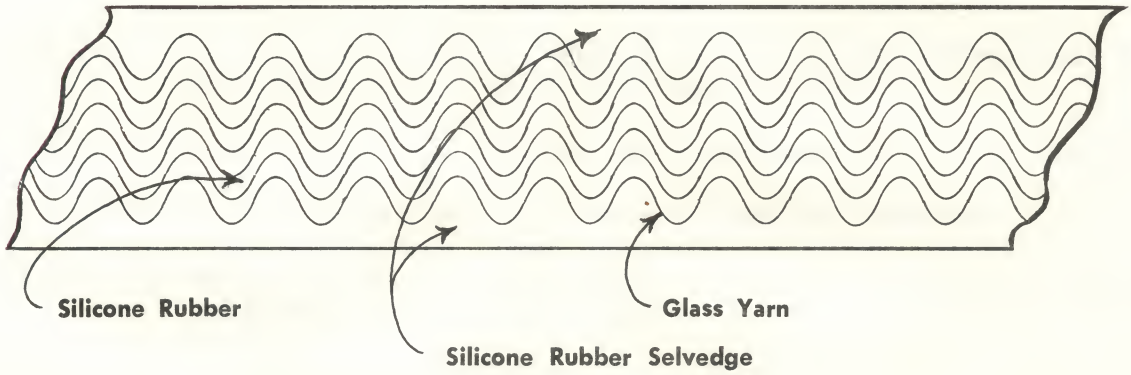
PAT. PENDING T.M.

INFORMATION

December, 1964

WHAT IT IS . . . . . !

STRETCH TAPE* is a new and different concept in tape design and manufacture. The sinusoidal glass yarn provides controlled stretch. The unique extrusion process produces supported tape with amazing dimensional tolerances; ± .002" in thickness; ± .005" in width. There is no exposed fabric at the edge. The thickness of rubber on either side of the fabric is completely controlled. The advanced technique allows extrusion of any extrudable material on one or both sides of any fabric.



STRETCH TAPE* is a unique product of Industrial Accessories.

WHAT IT DOES . . . . . !

STRETCH TAPE* is just what the name implies, a glass supported - STRETCHABLE - silicone rubber tape, combining high breaking strength with controlled stretchability. Its two-way stretchability enables it to conform with irregular surfaces and to go smoothly around bends or curves.

* Patent Pending

INDUSTRIAL ACCESSORIES, INC.
Subsidiary of **STAUFFER CHEMICAL COMPANY**
1425 E. Michigan Street, Adrian, Michigan 49221

Telephone
(313) 263-4691
TWX
436-2700

Stauffer CHEMICALS

STRETCH TAPE

PAT. PENDING T.M.

INFORMATION

December, 1964

STRETCH TAPE* opens new fields in tape application.

STRETCH TAPE* is smooth and pliable. It is easy to apply.

STRETCH TAPE* is fully cured - no post cure needed.

STRETCH TAPE* is self bonding - sticks to itself.

STRETCH TAPE* has a wide temperature range - (-60°F to +450°F).

STRETCH TAPE* has sealed edges - prevents wicking - maintains high insulation resistance under high humidity.

STRETCH TAPE* with its close dimensional tolerance and stability and predetermined stretch (up to 25%) insures a known minimum insulation build up.

STRETCH TAPE* glass supported and reinforced, has high abrasion and cut-thru resistance.

STRETCH TAPE* resists the effects of corona, ultra violet light and weathering.

STRETCH TAPE* has beveled edges - down to .005" - reducing air entrapment to a minimum and providing a smoother outer wrap.

STRETCH TAPE* is now available in two types and six widths.

STRETCH TAPE meets the requirements of MIL-I-22444, A.

Guide lines (integral) of a contrasting color are available, either on the center line for half-lap application or off-set for two thirds lap application.

Special tape designs are available for special applications.

Write, Wire or Telephone for samples, prices and other information.

* Patent Pending

INDUSTRIAL ACCESSORIES, INC.
Subsidiary of **STAUFFER CHEMICAL COMPANY**
1425 E. Michigan Street, Adrian, Michigan 49221

Telephone
(313) 263-4691
TWX
436-2700

Stauffer CHEMICALS

STRETCH TAPE

PAT. PENDING T.M.

INFORMATION

April, 1965

PHYSICAL PROPERTIES

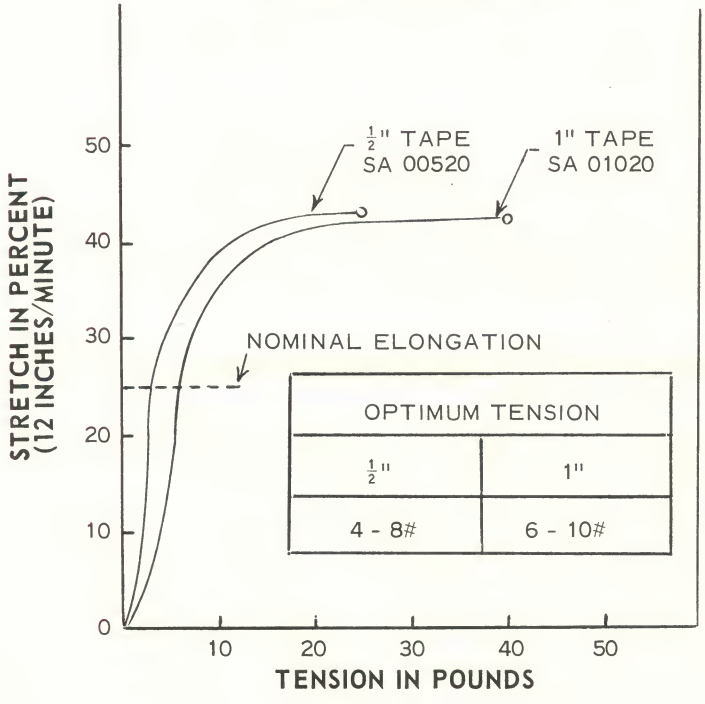
Stretch Tape* is available in two standard types (SA and SB) differing only in percent of stretch and breaking strength. Limiting stretch to a predetermined value serves as a design and process control, assuring:

- Uniform insulation thickness even around sharp edges
- Uniform breakdown voltage
- Conformability, characteristic of un-reinforced tape

The length-wise and transverse physical properties of Stretch Tape* are demonstrated in the Tension-Stretch curves below.

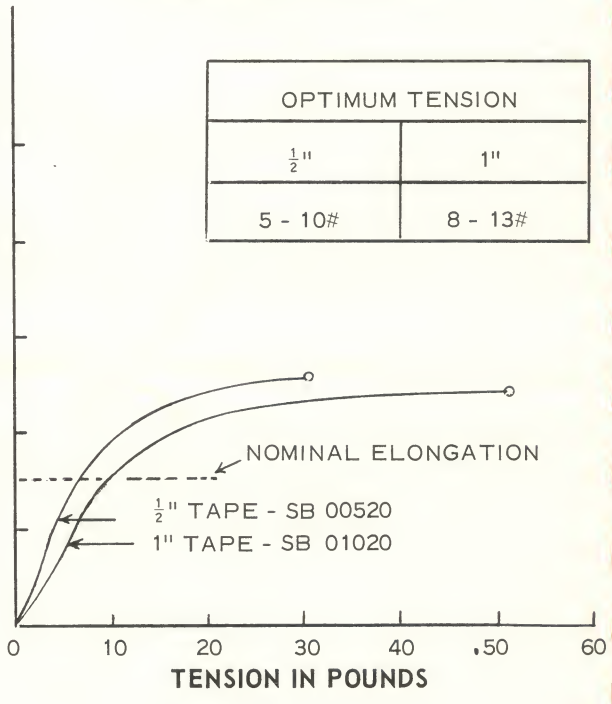
Figures 1 and 2 show that the optimum range of winding tensions begins at the nominal elongation (type SA – 25%, type SB – 15%). These tensions are easily attained by commercial winding equipment. Breaking tensions are high enough to provide a wide margin of safety.

FIGURE 1 - TYPE SA



OPTIMUM TENSION	
½"	1"
4 - 8#	6 - 10#

FIGURE 2 - TYPE SB



OPTIMUM TENSION	
½"	1"
5 - 10#	8 - 13#

*Patent Pending

I-2

INDUSTRIAL ACCESSORIES, INC.
Subsidiary of **STAUFFER CHEMICAL COMPANY**
1425 E. Michigan Street, Adrian, Michigan 49221

Telephone
(313) 263-4691
TWX
436-2700

Stauffer CHEMICALS

April, 1965

Both types of Stretch Tape* have considerable transverse stretch as illustrated in Figure 3. Combined with linear stretch, this property provides a high degree of conformability to irregular surfaces.

The change in width at the optimum tension range, Figure 4, provides a guide to initial spacing and tape length requirements.

FIGURE 3

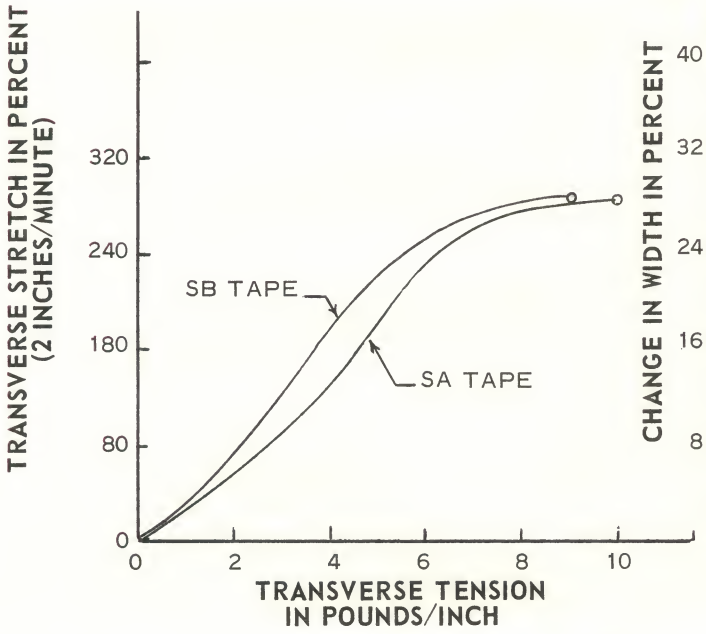
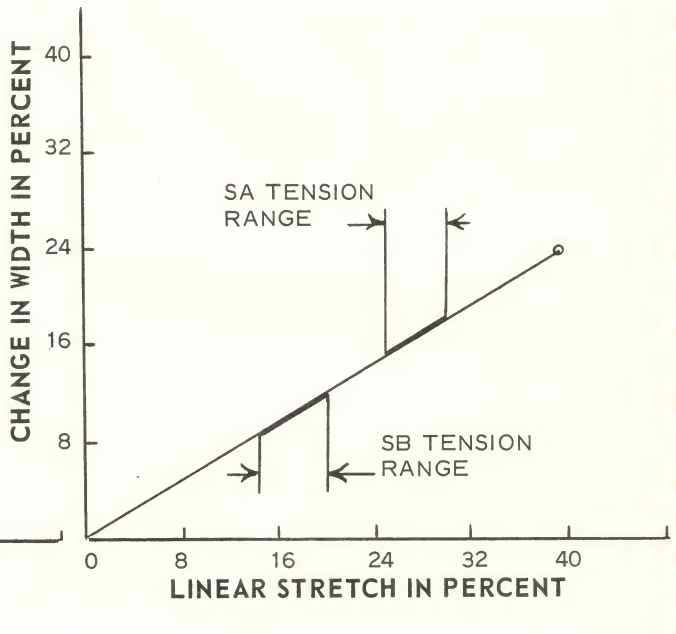


FIGURE 4



NOTE: THICKNESS OF ALL ABOVE TAPES - 0.020"

Although minor thickness variations occur as a result of the surface pattern developed at normal stretch, the change in tape thickness is negligible at any elongation.

In practice, when coils, bus bars and other conductors are wound - the decrease in wall thickness, over sharp edges does not exceed 10 percent of the original tape thickness. An edge radius on the bus bar or coil decreases this variation.

*Patent Pending

INDUSTRIAL ACCESSORIES, INC.
Subsidiary of STAUFFER CHEMICAL COMPANY
1425 E. Michigan Street, Adrian, Michigan 49221

Telephone
(313) 263-4691
TWX
436-2700

Stauffer CHEMICALS

STRETCH TAPE

PAT. PENDING T.M.

INFORMATION

August 1965

ELECTRICAL PROPERTIES

Stretch Tape*, the self fusing, glass reinforced silicone rubber tape with the two-way stretch has excellent properties making it uniquely suitable for critical applications in electrical machinery and cable.

Stretch Tape* incorporates fiber glass yarns placed, longitudinally, side by side in a sinusoidal pattern completely sealed within the silicone rubber. Accurate placement of the fiber glass yarns results in high tensile strength and resistance to abrasion and cut-through with a relatively low ratio of glass to rubber. Since the glass represents less than 10 percent of the total, the desirable electrical properties of the fusible silicone rubber are fully realized.

The combination of controlled two-way stretch and fiberglass reinforcement in self fusing silicone rubber insures accurate control of insulation build-up even over irregular bus-bar junctions and a minimum of thinning-out over sharp corners.

The electrical values given below were obtained in a series of tests on general production.

Dielectric Strength was measured on 1" x .020" tape (SA 01020) stretched to nominal elongation on a tubular electrode. Voltage rise, 500 vps. Five square inch electrode area.

- Measured at each of five temperatures after 2 hour soak at each temperature: 70°F, 100°F, 200°F, 300°F, and 400°F:

  400 to 500 vpm rms

- Measured at room temperature after heat aging:

24 hr. at 480° F	400 vpm rms
168 hr. at 480°F	300 vpm rms
24 hr. at 600°F	225 vpm rms

Dielectric Strength was measured with ¼" electrodes (ASTM-D-149):

70°F	750 vpm rms

Moisture absorption based on dry weight (96 hr. over $CaCl_2$)

96 hours at 96% R.H.	0.9%
96 hours in H_2O - room temperature	0.9%

*Patent Pending
Printed in U.S.A.

INDUSTRIAL ACCESSORIES, INC.
Subsidiary of **STAUFFER CHEMICAL COMPANY**
1425 E. Michigan Street, Adrian, Michigan 49221

Telephone
(313) 263-4691
TWX
436-2700

Stauffer CHEMICALS

STRETCH TAPE

PAT. PENDING T.M.

INFORMATION

August 1965

Volume resistivity shown graphically in Figure 1, was measured using 60 square inch electrodes at an applied voltage of 500 volts employing the method described in ASTM D-257.

Figure 2, shows dielectric constant and power factor as a function of temperature. Tests were made as specified in ASTM D-150.

FIGURE 1

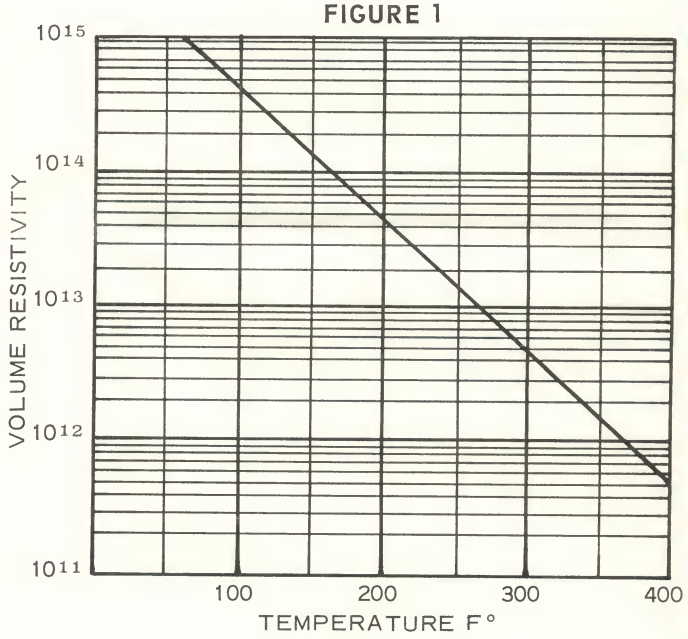
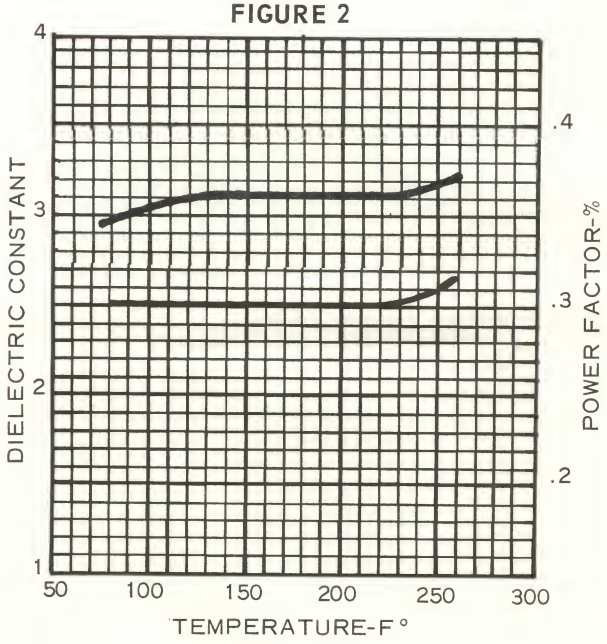


FIGURE 2



Stretch Tape* has been standardized in two basic types proven by experience to be satisfactory for general use. Type SA has 25 percent nominal longitudinal stretch and type SB, 15 percent. Details of physical properties are given in bulletin I-2, Physical Properties.

Stretch Tape*, complies with U.S. Navy Specification MIL-I-22444A. It is being used as class H insulation in locomotive traction motors and similar equipment.

*Patent Pending
Printed in U.S.A.

INDUSTRIAL ACCESSORIES, INC.
Subsidiary of **STAUFFER CHEMICAL COMPANY**
1425 E. Michigan Street, Adrian, Michigan 49221

Telephone
(313) 263-4691
TWX
436-2700

Stauffer CHEMICALS

INDUSTRIAL ACCESSORIES, INC.

Subsidiary of **STAUFFER CHEMICAL COMPANY**

1425 E. MICHIGAN STREET, ADRIAN, MICHIGAN 49221

TELEPHONE
(313) 263-4691
TWX
436-2700

March 1, 1966

T. Nelson Syst Cons.
Box 1546
Poughkeepsie New York 12603

Dear Mr. Nelson,

Thank you for your inquiry thru, "Electronic Products", regarding our Stretch Tape.

Stretch Tape is an extruded, glass supported, self adhering, silicone rubber tape with two-way stretch. The enclosed data sheet list the general characteristics of Stretch Tape and include some stress-strain curves that are helpful in calculating the required insulation build up and in adjusting tension in tape machines.

Types SA and SB in .020" thickness have a breakdown voltage of more than 600 v.p.m.

Type SA is approved by the U S Navy under specification MIL-I-22444A, dated 25 March 1964 and is called out in Bushipsletter No. 9623, Ser. 660W-4070, 28 October 1964 for shipboard cable splicing, ref. Buships Plan 9000-S6202-73980, Section 4, Sheet 117.

The same type is approved and in current use by Electro-Motive Division of General Motors Corporation under specification EMS-2074 for insulation of end turns and junctions in traction motors.

A small sample of type SA01020 is enclosed for your inspection, Stretch Tape adheres only to itself. The linear stretch of this sample is approximately 25%. The transverse stretch exceeds 100%. The breaking strength, about 40 lbs. is four times the tension required to reach nominal stretch.

One of our representatives will call on you at an early date. Meanwhile, if we can be of more immediate service please do not hesitate to call on us.

Sincerely yours,

INDUSTRIAL ACCESSORIES, INC.

James A. Myers

James A. Myers,
Sales Manager

JAM/njm
Enclosures